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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/559,415	04/26/2000	Mirosław Z. Bober	0054-0205P-SP	1497

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EXAMINER

TO, BAOQUOC N

ART UNIT PAPER NUMBER

2162

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/559,415

Applicant(s)

BOBER, MIROSLAW Z.

Examiner

Baoquoc N. To

Art Unit

2162

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04/18/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-10 and 33-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-10 and 33-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

10/13/06
✱

DETAILED ACTION

1. Claims 6-10 and 33-41 are pending in this application.

Response to Arguments

2. Applicant's arguments filed 04/18/2006 have been fully considered but they are not persuasive.

Applicant argues "first, the mere facts that reference may, arguendo, be combined does not in and of itself render the resultant combination obvious absent some motivation to combine the cited references. (See MPEP 2143.01) The examiner asserts that one skilled in the art would have been motivated to modify the two-dimensional trade mark image search and retrieval system of Eakins to include different perspective views of three-dimensional objects in order to provide a faster search and retrieval system. However, there is no evidence in the cited prior art, or the Action, to support that adding different perspective views of three-dimensional objects in the system of Eakins would increase the speed of Eakins's system. Accordingly, absent some evidence that the suggested modification actually achieves the alleged motivation, the rejection of claim 6 is improper."

The examiner respectfully disagrees with the above argument. Eakins discloses the method for retrieving of 2-dimensional images using attributes of the 2-dimensional. On the other hand, Eraslan discloses the indexing the 3-dimentional image and able to search for 2-dimentional images. The motivation for combining modifying Eakins system to include the indexing three dimensional images is to provide a fast search

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engine for searching a large collection of two dimensional mug shot photographs for those that match a particular facial image (col. 3, lines 7-10).

Applicant also argues "second, the examiner assertion that Eraslan discloses storing representations of three-dimensional objects as claimed is incorrect. Eraslan discloses a three-dimensional facial imaging system for generating facial images, indexing those images by composite codes and for searching for similar two-dimensional facial images. Although Eraslan discloses storing a plurality of 3-D facial features surfaces shapes which are indexed to using facial feature pat codes and shape codes, nowhere in Eraslan in there any disclosure or suggestion of an object descriptor including a plurality of view descriptors, each view descriptor being a representation of the three dimensional object from a different perspective. Even if, arguendo, one were to equate the shape codes of Eraslan do not represent different perspective views of a 3-D object, but rather different shapes of the same facial feature. Accordingly, should the examiner maintain this rejection in a future action, applicant respectfully requests that the Examiner point out by column and line number where Eraslan discloses a view descriptor as claimed."

The examiner respectfully disagrees with the above argument. Eraslan discloses the invention uses data for 3-D surface (i.e., for more than 2000 humans) to establish a face feature-surface repository...The invention associated an "index i" to each face (head) feature part 502 (e.g., nose as $i = 1$, upper-lip as $i = 2$, lower-lip as $i = 3$, chin as $i = 4$, etc...) to establish the required computer bookkeeping or indexing procedure. The

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invention considers the 3-D head-surface data for each different head; and by separating the face (head)-feature parts 502 for each head surface image, a computer generates a complete set of different face (head) feature surface 504 to form a repository of face feature surface." (col. 4, lines 24-33). Each of the code identifies image or shape of the head in one dimension. The different view of the object in 3-D is the same as each of the head surface in the 3-D.

Applicant also argues "since Eakins and Eraslan both fail to disclose or suggest a method of searching for an object comprising object descriptors including a plurality of view descriptors, each view descriptor a representation of a 3-D object from a different perspective view as claimed, the combination of these two patents cannot possibly disclose or suggest said feature. Therefore, event if one skilled in the art were motivated to combine would sill fail to render claim 6 unpatentable because the combination fails to disclose each and every claimed element."

Please see the above argument for the combination and the motivation.

Claim 36 is a similar concept of retrieving the three-dimensional image using the search parameters of the two dimensional object which is explain in the above argument.

Claims 7-10 and 34-41 are directly or indirectly depended on 6 and 33. Therefore, these claims are rejected under the same rational as to claims 6 and 33.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6-10 and 33-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eakins et al. (Retrieval of trade mark images by shape feature-the ARTISAN project) (May 22, 1996) in view of Eraslan (US. Patent No. 6,801,641 B2).

Regarding on claim 6, Eakins teaches a method of searching for an object in still or video image by processing signals corresponding to the images, the method comprising:

Inputting a query in the form of at least a two-dimensional outline of an object (to allow formulation of visual queries) (page 2 of 9, line 35);

Deriving a query object descriptor of the query object (search parameters extracts appropriate shape features from the query image) (page 4 of 9, line 33-34);

Comparing said query object descriptor with at least one of said object descriptors (computes appropriate similarity scores between query and stored image by shape feature matching) (page 4 of 9, lines 34-35);

Selecting and displaying at least one result corresponding to one of the image representations containing an object for which comparison between the associated object descriptor and the query object descriptor indicates a degree of similarity

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between the query object and said object (displays the most similarity retrieved images on the screen) (page 4 of 9, lines 37-37).

Eakins does not explicitly teach providing a plurality of stored image representations of tree-dimensional objects, each image representation being associated with an object descriptor; each object descriptor including a plurality view descriptors, each view descriptor a representation of one of the three-dimensional objects from a different perspective view of the three-dimensional object. Eraslan teaches providing a plurality of stored image representations of tree-dimensional objects, each image representation being associated with an object descriptor; each object descriptor including a plurality view descriptors, each view descriptor a representation of one of the three-dimensional objects from a different perspective view of the three-dimensional object (col. 4, lines 2-8). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Eakins' system to include the different view of three-dimensional stored object in the database as taught by Eraslan in order to provide a faster search and retrieval system.

Regarding on claim 7, Eakins a query is input in the form of two or more two-dimensional outlines of an object, and wherein a query view descriptor is derived for each said outline, and wherein the step of comparing comprises comparing each said query view descriptor with each view descriptor in each stored object descriptor to derive a plurality of view similarity values (page 4 of 9, lines 33-37).

Regarding on claim 8, Eakins teaches the view-similarity values are analyzed to derive object similarity values (page 4 of 9, lines 33-37).

Regarding on claim 9, Eakins teaches at least some of the object descriptor include view-independent descriptors which are related to shape/or size of the object, and wherein the method comprises inputting a view-independent query value and the step of comparing compares the query value with the view-independent descriptors for the stored object descriptor (page 4 of 9, lines 33-37).

Regarding on claim 10, Eakins teaches the query descriptor is derived using a curvature scale space representation of the query object outline (page 4 of 9, lines 33-37).

Claim 33 is rejected under the same reason as claim 6.

Regarding on claim 34, Eakins teaches the query descriptor is derived using a curvature scale space representation of an outline of the query object (page 4 of 9, lines 33-37).

Regarding on claim 35, Eakins teaches the stored descriptor is derived using a curvature scale space representation of an outline of the three-dimensional object (page 4 of 9, lines 33-37).

Claim 36 is rejected under the same reason as claim 6.

Regarding on claim 37, Eakins teaches selecting and displaying includes selecting and displaying an image representation of an object having a different view from perspective view of said query object based on said query object matching with at

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least two view descriptors including a view descriptor not representing perspective view of the object in the image representation (page 4 of 9, lines 33-37).

Regarding on claim 38, Eakins teaches one of the view descriptors corresponds to a view of the object as the object appears in the respective image representation (page 4 of 9, lines 33-37)

Regarding on claim 39, Eakins teaches one of the view descriptors corresponds to a perspective view of the object different from the perspective view of the object as the object appears in the respective image (page 4 of 9, lines 11-14).

Regarding on claim 40, Eakins teaches selecting include selecting and displaying an image representation including an object having a different perspective view from perspective view of said query object based on said query object matching with at least two view descriptors including a view descriptor not representing view of the object in the image (page 4 of 9, lines 33-37).

Regarding on claim 41, Eakins teaches each said view descriptor is a different representation of the object from a different perspective view of the three-dimensional object (page 4 of 9, lines 33-37).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is at 571-272-4041 or via e-mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached at 571-272-4107.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231.

The fax numbers for the organization where this application or proceeding is assigned are as follow:

(571) -273-8300 [Official Communication]

BQ To *BQ To*
October 11, 2006.

John S. Breene
JOHN BREENE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100